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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,805	11/24/2003	Lawrence J. Zach		5431

31083 7590 11/05/2004

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OMAHA, NE 68124

EXAMINER

MAMMEN, NATHAN SCOTT

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,805

Applicant(s)

ZACH ET AL.

Examiner

Nathan S Mammen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-16, 19-25, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 17, 18, 26 and 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/16/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities: Line 4 of claim 19 states “a power means on said support”. Since no “support” has been set forth, the claim should be changed to state “a power means on said support *member*”. Appropriate correction is required.
2. Claim 26 is objected to because of the following informalities: Claim 26 recites “said gearbox”, but no “gearbox” had previously been set forth. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10, 11, 13, 16, 19-20, 22, 25, 28, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,811,794 to Greene, cited by applicant.

The Greene '794 patent discloses a powered soil tillage device comprising an elongate support member (17) having upper (i.e., top) and lower (i.e., bottom) ends, a handle (14) on the support member, a power means (13) on the support member, a drive mechanism (41) on the support member and operatively connected to the power means, first and second elongated beams (22) mounted on the support member, and first and second tillage members (23) secured to the elongated beam. The elongated beams are laterally spaced from each other and are reciprocatably moved in an offset manner with respect to each other (see Figs. 1-2). The

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powered means includes a power shaft (51). A gearbox (41 – drive mechanism) includes a driven, transversely extending first shaft (60). First and second offset crank arms (32, 33) are connected to the gearbox/drive mechanism in the middle of the first and second beams. A support (40) is between the gearbox and the upper end of the elongated support member. The support has first and second elongated rocker arms (30) that are connected to first ends of the first and second elongated beams. The crank arms are offset with respect to one another at approximately 180 degrees (see Fig. 2).

Regarding claims 11, 13, 16, 20, 22, 25, 28, 29: The tillage members (23) comprise hoe blades. The first and second hoe blades are positioned in a fore and aft relationship with respect to one another. (see Figs. 1-2). The power means (13) is an internal combustion motor. Rocker arms (30) reciprocatably secure the first and second beams to the support member. Offset crank arms (32, 33) connect to the drive mechanism to the middle of the first and second beams.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,811,794 to Greene in view of U.S. Patent No. 3,057,412 to Hovis, Jr., cited by Applicant.

The Greene '794 patent discloses the claimed invention, as stated above, except for the powered soil tillage device having a power shaft extending downwardly through the hollow

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member to drive the gearbox. Instead, the Greene '794 patent utilizes a chain drive to transmit power from the power means through the hollow member (17). However, the Hovis '412 patent teaches that it is known in the art to utilize power shafts (86) as the power transmission means from a power source 932) to a hoe (156). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the powered soil tillage device of the Greene '794 patent with a shaft-type power transmission means as taught by the Hovis '412 patent, in order to provide a direct-drive power transmission system that eliminates the possibilities drive failure due to chain failure.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,811,794 to Greene in view of U.S. Patent No. 3,057,412 to Hovis, Jr., cited by Applicant, and further in view of U.S. Patent No. 4,122,902 to Alexander. See explanation in paragraph 8.

8. Claims 12, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,811,794 to Greene in view of U.S. Patent No. 4,122,902 to Alexander.

The Greene '794 patent, singularly and in view of the Hovis '412 patent, discloses the claimed invention, as stated above, except for the hoe blades being positioned inwardly. However, the Alexander '902 patent teaches that it is known in the art to provide different types of hoe blades for a powered tillage device, including hoe blades at an angle (47). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the powered tillage device of the Greene '794 patent with hoe blades at an angle as taught by the Alexander '902 patent, resulting in the blades positioned inwardly.

9. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,811,794 to Greene in view of U.S. Patent No. 3,057,412 to Hovis, Jr., cited by

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Applicant, and further in view U.S. Patent No. 6,382,325 to Bovi. See explanation in paragraph 10.

10. Claims 14-15, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,811,794 to Greene in view of U.S. Patent No. 6,382,325 to Bovi.

The Greene '794 patent discloses the powered tillage device, as stated above, except for the power means being a battery-driven electric motor. The Bovi '325 patent teaches that it is known in the art to provide a powered tillage device with a battery-driven electric motor as the power means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the powered tillage device of the Greene '794 patent with a battery-driven electric motor power means as taught by the Bovi '325 patent in order to provide the Greene '794 patent with the benefits of electric power, such as zero emissions, quieter operation, and a rechargeable power supply.

Allowable Subject Matter

11. Claims 8, 9, 17-18, 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

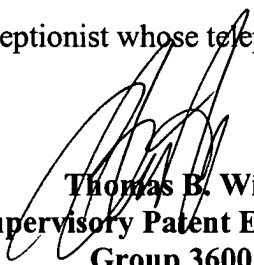
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Mammen whose telephone number is (703) 306-5959. The examiner can normally be reached Monday through Thursday from 6:30 a.m. to 5:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at (703) 308-3870. The fax number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-1113.



Thomas B. Will
Supervisory Patent Examiner
Group 3600

NSM
10/29/04

Nathan S. Mammen